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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,657	01/23/2002	Kazutaka Inukai	07977-293001	4346

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EXAMINER	
ANYASO, UCHENDU O	

ART UNIT	PAPER NUMBER
2675	

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/057,657	INUKAI, KAZUTAKA	
	Examiner	Art Unit	
	Uchendu O Anyaso	2675	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 January 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-55* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-55* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3, 4, 6*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. **Claims 1-55** are pending in this action.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. **Claims 1, 3-5, 7-9, 11-13, 15-17, 19-21, 23-25, 27-31, 33-37, 39-43, 45-49** and **51-55** are rejected under 35 U.S.C. 102(e) as being anticipated by *Kimura* (U.S. 6,518,962).

Regarding **independent claims 1, 7** and **21**, Kimura teaches a light emitting device comprising an OLED (column 1, lines 10-18) and a means for measuring a current (Id) flowing between a first electrode and a second electrode of the OLED by teaching how a voltage adjusting unit comprises: a current measuring unit for measuring a quantity of driving current

when a data signal of the predetermined voltage is supplied to the driving device; and a voltage control unit for adjusting at least one of the voltages such that the measured current approaches a predetermined reference current. (*see* column 4, lines 8-14; *see also* column 20, lines 41-62, figure 1 at 11, 12, Id).

Furthermore, Kimura teaches means for comparing the measured current value and a reference current value by teaching a comparison circuit 21a that compares the measured current Id measured by the current measuring equipment 16 to a predetermined reference current Iref (*see* column 21, lines 57-59, figure 3 at 16, 21a).

Also, Kimura teaches a means for correcting a voltage between the first electrode and the second electrode of the OLED for making the value of the current flowing between the first electrode and the second electrode of the OLED close to the reference current value based on a difference between the measured current value and the reference current value by teaching how the voltage control circuit 22a adjusts the output voltage of the common electrode driving circuit 13 based upon the comparison results in such a manner that the difference between both of the currents such that feedback is given to the output voltage from the common electrode driving circuit 13 in such a manner that the measured current ID comes close to the reference current resulting in the decrease, as a result of deterioration over time in the organic EL device 224 or the current TFT 223, in the driving current flowing through the organic EL device 224 which is obtained in the case without feedback is corrected with an increase in the driving current resulting from the increase in the output voltage of the common electrode driving circuit 13 (column 21, lines (column 21, lines 59 through column 22, lines 9, figure 3, 4 at 13).

Regarding **independent claims 9, 13** and **17**, Kimura teaches a light emitting device comprising an OLED (column 1, lines 10-18) and a means for measuring a current (Id) flowing between a first electrode and a second electrode of the OLED by teaching how a voltage adjusting unit comprises: a current measuring unit for measuring a quantity of driving current when a data signal of the predetermined voltage is supplied to the driving device; and a voltage control unit for adjusting at least one of the voltages such that the measured current approaches a predetermined reference current. (*see* column 4, lines 8-14; *see also* column 20, lines 41-62, figure 1 at 11, 12, Id).

Furthermore, Kimura teaches means for comparing the measured current value and a reference current value by teaching a comparison circuit 21a that compares the measured current Id measured by the current measuring equipment 16 to a predetermined reference current Iref (*see* column 21, lines 57-59, figure 3 at 16, 21a).

Also, Kimura teaches a means for correcting a voltage between the first electrode and the second electrode of the OLED for making the value of the current flowing between the first electrode and the second electrode of the OLED close to the reference current value based on a difference between the measured current value and the reference current value by teaching how the voltage control circuit 22a adjusts the output voltage of the common electrode driving circuit 13 based upon the comparison results in such a manner that the difference between both of the currents such that feedback is given to the output voltage from the common electrode driving circuit 13 in such a manner that the measured current ID comes close to the reference current resulting in the decrease, as a result of deterioration over time in the organic EL device 224 or the current TFT 223, in the driving current flowing through the organic EL device 224

which is obtained in the case without feedback is corrected with an increase in the driving current resulting from the increase in the output voltage of the common electrode driving circuit 13 (column 21, lines (column 21, lines 59 through column 22, lines 9, figure 3, 4 at 13).

Furthermore, Kimura teaches how a quantity of driving current in the corresponding light-emitting device is maintained substantially constant such that even if there are variations in current-voltage characteristics of the light-emitting device or the driving device among a plurality of pixels, the quantity of driving current in the light-emitting device of the corresponding plurality of pixels can be maintained substantially constant, if the voltage control of the data signal using the voltage adjusting unit is performed on independent pixels wherein a voltage control unit for adjusting at least one of the voltages such that the measured quantity of emitted light approaches the reference quantity of emitted light (column 4, lines 23-35).

Regarding **independent claims 25, 31, 37, 43, 49** and **55**, Kimura teaches a light emitting device comprising an OLED (column 1, lines 10-18), a variable power supply by teaching a voltage control unit for adjusting at least one of the voltages such that the measured current approaches a predetermined reference current, and an ammeter for measuring a current (Id) flowing between a first electrode and a second electrode of the OLED by teaching a current measuring unit for measuring a quantity of driving current when a data signal of the predetermined voltage is supplied to the driving device; and (*see* column 4, lines 8-14; *see also* column 20, lines 41-62, figure 1 at 11, 12, Id).

Furthermore, Kimura teaches means for comparing the measured current value and a reference current value by teaching a comparison circuit 21a that compares the measured

current Id measured by the current measuring equipment 16 to a predetermined reference current Iref (*see* column 21, lines 57-59, figure 3 at 16, 21a).

Also, Kimura teaches a means for correcting a voltage between the first electrode and the second electrode of the OLED for making the value of the current flowing between the first electrode and the second electrode of the OLED close to the reference current value based on a difference between the measured current value and the reference current value by teaching how the voltage control circuit 22a adjusts the output voltage of the common electrode driving circuit 13 based upon the comparison results in such a manner that the difference between both of the currents such that feedback is given to the output voltage from the common electrode driving circuit 13 in such a manner that the measured current ID comes close to the reference current resulting in the decrease, as a result of deterioration over time in the organic EL device 224 or the current TFT 223, in the driving current flowing through the organic EL device 224 which is obtained in the case without feedback is corrected with an increase in the driving current resulting from the increase in the output voltage of the common electrode driving circuit 13 (column 21, lines (column 21, lines 59 through column 22, lines 9, figure 3, 4 at 13).

Regarding **claims 3, 7, 11, 15, 19** and **23,** in further discussion of claims 1, 5, 9, 13, 17 and 21, Kimura teaches a period during which the OLED emits light is controlled with a digital video signal to display gradations (column 18, lines 60-63, figure 4; column 22, lines 10-29, figure 4).

Regarding **claims 4, 8, 12, 16, 20** and **24,** in further discussion of claims 1, 5, 9, 13, 17 and 21, Kimura teaches a comparing means via a comparison circuit 21a (figure 3 at 21a). It is inherent that such a circuit would be comprise a comparator which involves logical add and/or subtraction circuits that are components of a calculation circuit.

Regarding **claims 27-30, 33-36, 39-42, 45-48** and **51-54,** in further discussion of claims 25, 31, 37, 43, and 49, Kimura teaches how a second substrate on which the correction circuit is formed is attached onto a first substrate on which the OLED is formed (see figure 20; see also column 37, lines 37-67).

Claim Rejections - 35 USC ' 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 2, 6, 10, 14, 18, 22, 26, 32, 38, 44** and **50**are rejected under 35 U.S.C. 103(a) as being unpatentable over *Kimura* (U.S. 6,518,962) in view of *Shen et al* (U.S. 6,414,661).

Regarding **claims 2, 6, 10, 14, 18, 22, 26, 32, 38, 44** and **50,** in further discussion of claim 1, Kimura teaches a device wherein the measuring means 16, the comparing means 21a, and the correcting means 22b are provided for the display apparatus 15 (figures 3, 5, 6 at 15, 16, 21a, 22b). However, Kimura does not teach how these means are provided for each of the corresponding colors of the OLEDs. On the other hand, Shen discloses how this would be

achieved by teaching how the color of light emitted from the OLED device can be controlled by the selection of the organic material wherein white light is produced by generating blue, red and green lights simultaneously the precise color of light emitted by a particular structure can be controlled both by selection of the organic material (column 1, lines 20-39).

Thus, it would have been obvious to a person of ordinary skill in the art to combine Kimura and Shen because while Kimura teaches a device wherein the measuring means 16, the comparing means 21a, and the correcting means 22b are provided for the display apparatus 15 (figures 3, 5, 6 at 15, 16, 21a, 22b), Shen teaches how these means would be are provided for each of the corresponding colors of the OLEDs (column 1, lines 20-39). The motivation for doing this would have been to provide a method for automatically maintaining the uniformity of the display output of an OLED device (column 1, lines 13-17).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Uchendu O. Anyaso whose telephone number is (703) 306-5934. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras, can be reached at (703) 305-9720.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Uchendu O. Anyaso

09/17/2004

CHANH NGUYEN
PRIMARY EXAMINER